MONTGUIDE
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Managing Montana Farm Habitat for Pheasants

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Pheasants are not native to the United States, but are the most successful exotic game bird introduced into North America. Pheasants were introduced into Montana prior to 1895. They are widely spread throughout the North American continent: on the Pacific coast from Queen Charlottes Islands, Canada, in the north, south to Baja, California, and in a band across the continent to Nova Scotia.

The pheasant is closely tied to grain farming. Intensive farming and clean tillage have eliminated a great deal of pheasant habitat, but the Conservation Reserve Program (CRP) provided great potential to create new, or improve existing, pheasant habitat on land taken out of crop production.

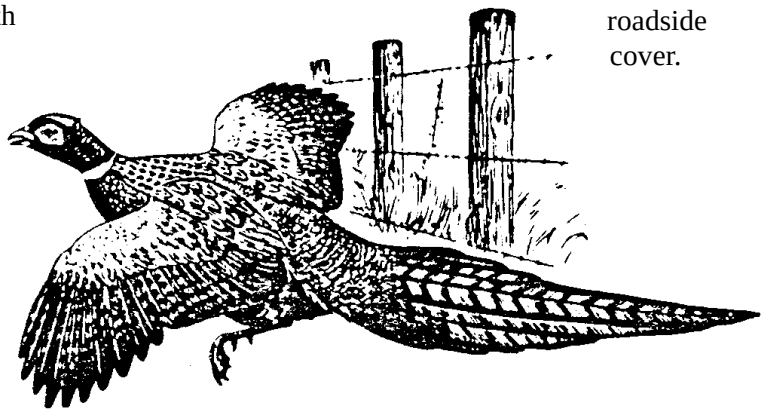
Successful pheasant production requires a knowledge of pheasant breeding, nesting, brooding and winter habitats. In addition, other aspects of pheasant habitat such as loafing cover, escape cover, and adequate foods for adult and growing pheasants are important.

Nesting Habitat

Pheasants are highly dependent upon agriculture and agricultural practices. Undisturbed nesting and brooding habitat is usually the most limiting factor on agricultural lands.

Nesting can take place from April to September with incubation taking 24 days. Pheasants frequently use alfalfa for nesting, but many nests are destroyed by mowing. If a farmer is fortunate enough to have a wetland on his property, it can supply a great amount of nesting habitat.

A study in Texas reported 40 percent of the nests were found in vegetation associated with wetlands, although only two percent of the land was in that habitat. Wheat and other small grains made up another 40 percent, and most of the remaining nest habitat was in alfalfa and roadside cover.



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Pheasants prefer cover 10 to 20 inches high with little or no grazing. A mixture of adapted grasses and legumes works best as nesting cover. Consult your county Extension agent or Natural Resource Conservation Service office for seeding recommendations for your area.

Flushing bars on the front of hay harvesting equipment will save some nesting hens. Fence rows planted to grasses or legumes also provide nesting cover for pheasants. Annual weeds should be allowed to grow around abandoned farmsteads, buildings and other idle areas, but shredding or grazing may be needed so weeds do not get too thick or tall. Allowing vegetation to grow around tail water pits and waterways supplies good nesting habitat.

Detrimental activities include: burning ditches and roadsides; heavy grazing and trampling; and heavy use of herbicides. They all reduce the number of chicks raised.

Beneficial plans for nesting pheasants include minimum tillage; completing spring plowing before May 1; using plows that leave debris on the surface; planting grass and legume mixtures in odd areas, field belts and shelterbelts; planting small grains; fencing water sources; delaying alfalfa cutting until after July 15; maintaining and establishing wetlands; mowing out from the center of the field (see Figure 1); and harvesting grass and alfalfa for seed instead of forage.

Brood Habitat

The habitat needed for brooding and nesting is similar. Brood habitat must provide abundant insect food, because insects are the major food source for pheasants their first three weeks. Plant material becomes progressively more important after the first three weeks.

Chick mortality is often high (30 to 50 percent). The mortality rate tends to increase if a chick's diet contains a lower percentage of insects.

Ideal brood cover is layered with varied screening ability: thick from ground level to eight inches high; and fairly heavy between eight and 20 inches. Twenty- to 40-inch high cover can be somewhat thinner. Areas that fit this description include weedy areas with some grass; and wheat until harvest, especially if weedy. Crops or other monocultures do not provide good brood habitat, and the best recommendation is to let abandoned farmsteads, wetlands, and roadsides grow up with weedy vegetation.

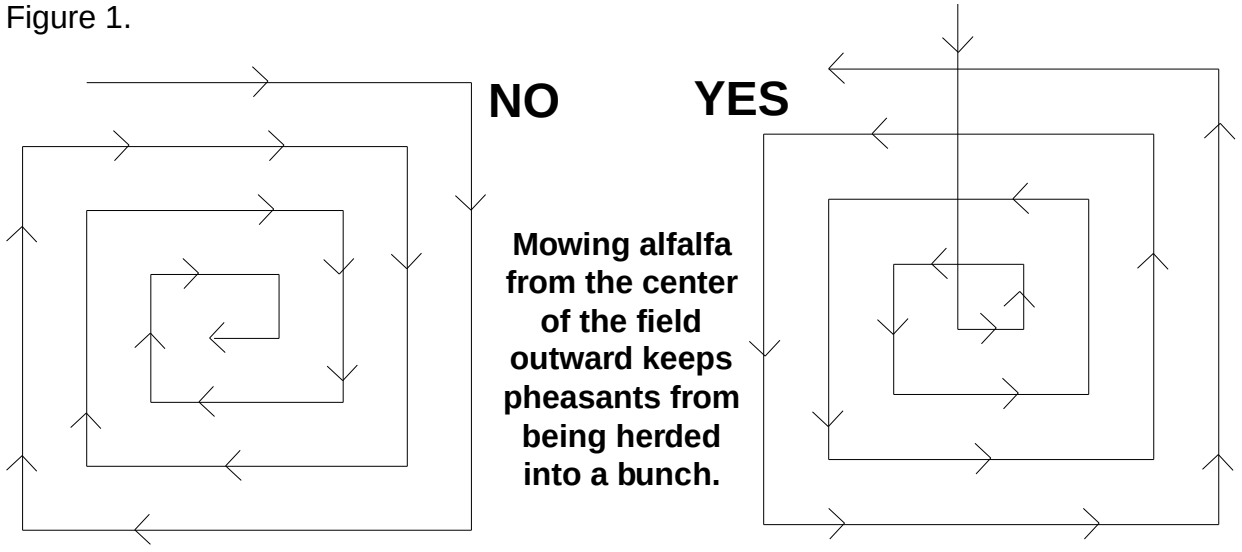
Winter Habitat

In late fall and winter, pheasants often concentrate in areas of extensive loafing and roosting cover, in close proximity to a good food source. At this time of year, wooded areas or other areas are sought out to provide protection from snow, bitter cold and high winds.

While winter food is usually available, cover is often inadequate, therefore limiting much of the pheasants' range in Montana. Winter cover should be more than 15 inches high with herbaceous cover included in all plantings.

Cattails and bulrush in wetlands and along watercourses provide excellent winter habitat. These areas should be managed during the summer to produce this vegetation and should only be grazed

Figure 1.



lightly, if at all. Grain stubble adjacent to these areas is also beneficial. Establishing cover around tail water pits can also provide important winter cover.

Avoid fall plowing, fall burning, trampling and heavy grazing around water, and removal of old tree blocks and belts: all are detrimental to wintering pheasants. Instead, try minimum tillage; planting sprinkler corners, ditch banks, roadsides and odd areas to permanent grasses and legumes; field belts and shelterbelts; shrub thickets; small grains; strip farming; and wetland establishment and maintenance, as all these practices are beneficial for wintering pheasants.

Pheasant Foods

Sixty to 80 percent of the adult pheasants' diet is made up of agricultural grains like corn, oats, barley and wheat. This is usually provided by grain wasted in the harvest process. The remainder is usually weed seeds and insects. In the winter, fruits from woody plants are important. Insects become a substantial part of the diet in spring, and decline through the summer into fall. As previously mentioned, chicks survive the first three weeks of their life almost entirely on insects. Weed seeds are generally five to 15 percent of the diet. Greens make up about 20 percent of the diet in May, and decline through the summer.

The fruits of woody plants are used by pheasants when available. Buck brush, prairie rose and Russian olive are examples of these plants.

Special Considerations and Needs

Pheasants have a number of special needs. One of these is travel lanes to connect the various components of their habitat. Fence rows, waterways, roadsides, terraces, and tree or shrub rows can all be managed to provide travel lanes. Without these travel lanes, some habitats that could be useful to pheasants get little use. Travel lanes are especially needed if food and cover are separated.

Water is important to the pheasant, but the pheasant does not depend upon open water to satisfy its needs. Pheasants can fulfill their water requirements from dew, succulent greens and insects, but will use open water if available. Grit also is important for digestion, and pheasants use dusting areas, apparently to help control external parasites.

Predation of live birds and nests is another cause of pheasant mortality. House cats, dogs, foxes, skunks, raccoons, weasels, great horned owls, hawks, crows, jays and grackles are predators on pheasants. Predator control may be beneficial when a new population is being established.

Farm chemicals can be detrimental to pheasants because they are so closely tied to agriculture. Heavy use of herbicides can limit cover of weeds, and can also be detrimental to shelterbelts. Pesticides should only be used when necessary, and extreme care should be taken to minimize use during nesting and brooding periods. Always read and follow label directions carefully when using farm chemicals.

Pheasants can damage crops like tomatoes, melons and seedling corn. Pheasants damage seedling corn by pulling up the plants, possibly to get the corn seed. Scattering ear corn around newly planted fields and/or scattering manure around fields, especially if corn residue was contained in it, is recommended to curtail losses.

The Montana Department of Fish, Wildlife and Parks maintains the Upland Game Bird Habitat Enhancement Program. As a part of this program, landowners can develop cooperative habitat projects with the Department to provide cost sharing for shelterbelts, winter food plots, nesting cover, range management improvements and wetland restoration. For more information on this program, contact a Regional office of the Montana Department of Fish, Wildlife and Parks.

Summary

Pheasant habitat should be planted in such a manner that it will lure nesting pheasants from alfalfa and small grain fields, and provide brooding and winter habitat.

Acres that are to be planted to permanent cover should be seeded with a mixture of grasses and legumes that are suited to the area and climate. Fence rows, roadsides and ditch banks should be planted similarly or allowed to grow up to annual weeds to form travel lanes. Abandoned farmstead, equipment areas, corrals and tail water pits should be allowed to grow up in the annual weeds for cover and food. Wetlands and watercourses should be managed for bulrushes and cattails. Large shrubs or trees that would provide both cover and food could be planted around wetlands, streams and in other places where water is available. In all these areas, buckbrush would work well for these plantings. All existing shelterbelts should be preserved, and should be grazed only lightly and when necessary to allow pheasant movement.

Crop variety is also important. Corn, winter wheat, small grains

and many other crops are used as food or cover for pheasants at various times of the year. Crops harvested in the fall should not be plowed until early spring. After harvest, wheat and other small grains provide pheasant cover and food if not plowed until fall or the following spring.

Tillage practices that leave stubble and waste grain on the surface are generally good for pheasants. The first cutting of alfalfa each year should be delayed as late as economically possible, and a flushing bar should be used in front of the header. It is also important to begin the cutting pattern in the middle of the field to avoid "herding" the birds into a small area where they might crouch and hide instead of flushing (see Figure 1). Food crops are generally not needed, but if they are planted, they should be near good cover, and weeds should not be controlled in these areas.

When spraying pesticides and herbicides, pheasants should also be considered. Take care that chemicals used are not harmful to pheasants, and all should be used at the proper rates. Care should be taken to keep these chemicals away from pheasant cover, especially during nesting and brooding.

Developing a Seed Mix for Montana Pheasant Habitat

Landowners sometimes request a recommendation for a seed mixture that will provide pheasant habitat along field edges, in center pivot corners or other areas they wish to dedicate to pheasants. Agronomy and wildlife specialists at Montana State University are presently developing recommendations for a Montana Mix.

The specific objectives are to develop habitat plots that provide thick stands of winter cover along with a stable food source. Although it will take a few years to determine the final recommended mix, at the present time, landowners could try a combination of grain sorghum. People in Kansas use a combination of short season grain sorghum, milk-a-lot forage sorghum, atlas sorghum, Hegarr sorghum, and Coes sorghum.

About 75 percent of Montana's pheasant range has at least 110 frost-free days, but those varieties requiring the shortest growing season would be best. Trapper pea could also be added. Drill seeds at about 50 percent greater rate than usually recommended.

You will need to replant the sorghum each year. To develop perennial plots that provide cover and food, we are also investigating a mixture of alfalfa and wild rye. Altai, Russian and Basin wildrye will provide cover and food that does not need to be replanted each year.

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